FORM MR-LMO
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FOR DIVISION USE ONLY
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STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
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NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

The informational requirements in this form are based on provisions of the Mined Land Reclamation Act, Title 40-8, Utah Code Annotated 1953, General Rules and Rules of Practice and Procedures.

This form applies only to mining operations which disturb or will disturb more than five acres at any given time.

"MINING OPERATIONS" means those activities conducted on the surface of the land for the exploration for, development of, or extraction of a mineral deposit, including, but not limited to, surface mining and the surface effects of underground and in situ mining, on-site transportation, concentrating, milling, evaporation, and other primary processing.

"Mining operation" does not include: the extraction of sand, gravel, and rock aggregate; the extraction of oil and gas as defined in Chapter 6, Title 40; the extraction of geothermal steam; smelting or refining operations; off-site operations and transportation; or reconnaissance activities which will not cause significant surface resource disturbance or involve the use of mechanized earth-moving equipment such as bulldozers or backhoes.

PLEASE NOTE: *This form is to be used as a guideline in assembling the information necessary to satisfy the Large Mining Operations Notice of Intention requirements.* ***You will need extra space to provide a majority of the information requested****. Please provide the information on additional sheets and include cross-referenced page numbers as necessary. The operator may submit this information on an alternate form; however, the same or similar format must be used.*

I. Rule R647-4-104 - Operator(s), Surface and Mineral Owners

The operator must provide the name, address and telephone number of the individual or company who will be responsible for the proposed operation. If a company is to be listed as the operator, then the name of the corporate officers need to be provided.

1. **Mine Name:** Lime Ridge

2. **Name of Applicant or Company:** _____
   Corporation (X) Partnership ( ) Individual ( )

3. **Permanent Address:** 700 E Brown Canyon Rd.
   P.O. Box 502
   Blanding, Utah 84511
   Phone: 435-678-2028 Fax: 435-678-3503

4. **Company Representative** (or designated operator):

   Name: Jerry Holliday
   Title: President
   Address: P.O. Box 502
   Phone: 435-678-2028 Fax: 435-678-3503

5. **Location of Operation:** Township 41 South, Range 20 East, SLB&M Section 16: N½ N½ SW¼, SW¼ SW¼
   County(ies) San Juan
   _____1/4 of _____ 1/4, Section: _____ Township: _____ Range: _____
   _____1/4 of _____ 1/4, Section: _____ Township: _____ Range: _____
   _____1/4 of _____ 1/4, Section: _____ Township: _____ Range: _____

The names of the surface and mineral owners for any areas which are to be impacted by mining must be provided to the Division. This list should include all private, state and federal ownership and the owners of lands immediately adjacent to the project areas.

6. **Ownership of the land surface** (circle all that apply):
Private (Fee), Public Domain (BLM), National Forest (USFS), (State of Utah) (SITLA) or other:

Name: _____ Address: _____
Name: _____ Address: _____
Name: _____ Address: _____
Name: _____ Address: _____

7. **Owner(s) of record of the minerals to be mined:**

Name: _____ Address: _____
Name: _____ Address: _____
Name: _____ Address: _____
Name: _____ Address: _____

8. **Have the above owners been notified in writing**? Yes _____ No _____

If no, why not? _____

_____

9. **Does the operator have legal right to enter and conduct mining operations on the land covered by this notice**? Yes __X__ No _____.

II. **Rule R647-4-105 - Maps, Drawings & Photographs**

105.1 - Base Map

A complete and correct topographic base map (or maps) with appropriate contour intervals must be submitted with this notice showing all of the items on the following checklist. The scale should be approximately 1 inch = 2,000 feet (preferably a USGS 7.5 minute series or equivalent topographic map where available). The map(s) must show the location of lands to be affected in sufficient detail to allow measurement of the proposed area of surface disturbance.

Base Map Checklist

Please check off each section to verify these features are included on the map(s) or explain why it is not applicable. Please add the map identification name or number which shows these features.

— SEE APPENDIX 1 —

Check			Map ID
_____	(a)	Property boundaries of surface ownership of all lands which are to be affected by the mining operations;	_____
_____	(b)	Perennial, intermittent, or ephemeral streams, springs and other bodies of water; roads, buildings, landing strips, electrical transmission lines, water wells, oil and gas pipelines, existing wells or boreholes, or other existing surface or subsurface facilities within 500 feet of the proposed mining operations;	_____
_____	(c)	Proposed route of access to the mining operations from nearest publicly maintained highway (Map scale appropriate to show access);	_____
_____	(d)	Known areas which have been previously impacted by mining or exploration activities within the proposed land affected;	_____
_____	(e)	Areas proposed to be disturbed or reclaimed over the life of the project or other suitable time period.	_____

105.2 - Surface Facilities Map

Surface Facilities Map Checklist

Surface facilities maps should be provided at a scale of not less than 1" = 500'.

Please check off each section to verify these features are included on the map(s) or explain why it is not applicable. Please add the map identification name or number which shows these features.

— SEE APPENDIX 2 —

Check			Map ID
_____	(a)	Proposed surface facilities, including but not limited to: buildings, stationary mining/processing equipment, roads, utilities, power lines, proposed drainage control structures, and the location of topsoil storage areas, overburden/waste dumps, tailings or processed waste facilities, disposal areas for overburden, solid and liquid wastes, and wastewater discharge treatment and containment facilities;	_____
_____	(b)	A border clearly outlining the extent of the surface area proposed to be affected by mining operations, and the number of acres proposed to be affected;	_____
_____	(c)	The location of known test borings, pits, or core holes.	_____

105.3 - Additional Maps

Reclamation Treatments Map Checklist

Please check off each section to verity these features are included on the map(s) or explain why it is not applicable. Please add the map identification name or number which shows these features.

— SEE APPENDIX 3 —

Check			Map ID
_____	(a)	Areas of the site to receive various reclamation treatments shaded, cross hatched or color coded to identify which reclamation treatments will be applied. Areas would include: buildings, stationary mining/processing equipment, roads, utilities, proposed drainage improvements or reconstruction, and sediment control structures, topsoil storage areas, waste dumps, tailings or processed waste facilities, disposal areas for overburden, solid and liquid wastes, ponds, and wastewater discharge, treatment and containment facilities. Reclamation treatments may include ripping, regrading, replacing soil, fertilizing, mulching, broadcast seeding, drill seeding, and hydroseeding:	_____
_____	(b)	A border clearly outlining the extent of the area to be reclaimed after mining, the number of acres disturbed, and the number of acres proposed for reclamation:	_____

_____ (c) Areas disturbed by this operation which are included in a request for a variance from the reclamation standards: _____

_____ (d) Highwalls which are proposed to remain steeper than 45 degrees and slopes which are proposed to remain steeper than 3 horizontal : 1 vertical. _____

Note: Areas included in sections c & d will need to be referenced in the variance request section. Please shade or color code these areas on this map.

Additional maps and cross sections may be required in accordance with Rule R647-4-105.3. Design drawings and typical cross-sections for each tailings pond, sediment pond, or other major drainage control structures must also be included.

III. Rule R647-4-106 - Operation Plan

106.1 - Mineral(s) to be mined: Lime Stone + Gravel

106.2 - Type of Operation Conducted: Crushing

Describe the typical methods and procedures to be used in mining operations, on-site processing and concurrent reclamation. Include equipment descriptions where appropriate.

106.3 - Estimated Acreage

Acreage listed here should match areas measured off the maps provided.

Areas of actual mining:	10
Overburden/waste dumps:	0
Ore and product stockpiles:	1
Access/haul roads San Juan Co-op, Rd	0
Associated on-site processing facilities:	1
Tailings disposal:	0
Other - Please describe	
Total Acreage	12

106.4 - Nature of material including waste rock/overburden and estimated tonnage

Describe the typical annual amount of the ore and waste rock/overburden to be generated, in cubic yards. Where does the waste material originate? What is the nature of the overburden/wastes (general chemistry/mineralogy and description of geologic origin)? Will it be in the form of fines or coarse material? What are the typical particle size and size fractions of the waste rock?

Thickness of overburden:	0 ft.
Thickness of mineral deposit:	Unknown 10? ft.

Estimated annual volume of overburden: 0 cu. yds.
Estimated annual volume of tailings/reject materials: 0 cu. yds.
Estimated annual volume of ore mined: 40,000 cu. yds.
Overburden/waste description: Limestone and there is no over burden Surface mining

106.5 - Existing soil types, location of plant growth material

Specific information on existing soils to be disturbed by mining will be required. General soils information may not be sufficient.

Provide specific descriptions of the existing soil resources found in the area. Soil types should be identified along with depth and extent, especially those to be directly impacted by mining.

Soils - The plan shall include an order 3 Soil Survey (or similar) and map. This information is needed to determine which soils are suitable for stockpiling for revegetation. This soil data may be available from the local Soil Conservation Service office, or if on public lands, from the land management agency. The map needs to be of such scale that soil types can be accurately determined on the ground (see Attachment I).

(a) Each soil type to be disturbed needs to be field analyzed for the following:

Depth of soil material May be 1" in areas 1 inches
Volume (for stockpiling) _____ cu. yds.
Texture (field determination _____
pH (field determination) _____
(cross reference with item 106.6)

(b) Where there are problem soil areas (as determined from the field examination) laboratory analysis may be necessary. Soil samples to be sent to the laboratory for analysis need to be about one quart in size, properly labeled, and in plastic bags. Each of the soil horizons on some sites may need to be sampled. Soil sample locations need to be shown on the soils map. Soil analysis for these samples should include: texture, pH, Ec (conductivity), CEC (Catoin Exchange Capacity), SAR, % Organic Matter, Total N, Available Phosphorus (as P_2O_5), Potassium (as K_20), and acid/base potential.

106.6 - Plan for protecting and redepositing existing soils

Thickness of soil material to be salvaged and stockpiled: 1" in Some Areas inches
Area from which soil material can be salvaged: (show on map) _____ acres
Volume of soil to be stockpiled: 5 acres = 30 yds Top Soil _____ cu. yds.
(cross reference with item 106.5 (a))

Describe how topsoil or subsoil material will be removed, stockpiled and protected.
Cat + loader will put it in a pile @ the edge of the mining area Where it will be out of the way.

106.7 - Existing vegetative communities to establish revegetation success

Vegetation - The operator is required to return the land to a useful condition and reestablish at least 70 percent of the premining vegetation ground cover.

Provide the Division with a description of the plant communities growing onsite and the percent vegetation cover for each plant community located on the site. Describe the methodology used to obtain these values.

The percent ground cover is determined by sampling the vegetation type(s) on the areas to be mined (see Attachment I for suggested sampling methods).

(a) Vegetation Survey - The following information needs to be completed based upon the vegetation survey:

Sampling method used: Ocular estimation from 10 $10m^2$ plots.
Number of plots or transects (10 minimum): _____

Ground Cover	Percent
Vegetation (perennial grass, forb and shrub cover)	30%
Litter	0%
Rock/~~rock fragments~~	20%
Bare ground / ~~small rocks~~ gravel	50%
	100%
Revegetation Requirement (70 percent of above vegetation figure)	_____%

Indicate the vegetation community(ies) found at the site.

List the predominant perennial species of vegetation growing in each vegetation community type.

Shrubs
- Black brush
- Cliff Rose
- Shad Scale

forbs
- Winterfat

grasses
- blue gramma grass
- Hairy Galleta

(b) Photographs - The operator may submit photographs (prints) of the site to show existing vegetation conditions. These photographs should show the general appearance and condition of the area to be affected and may be utilized for comparison upon reclamation of the site. Photographs should be clearly marked as to the location, orientation and the date they were taken.

-SEE APPENDIX 4-

106.8 - Depth to groundwater, overburden material & geologic setting

Describe the approximate depth to groundwater in the vicinity of the operation based on the completion of any monitoring or water wells in the area. Please show the location of these wells on the base map.

Depth to groundwater _____ ft.

Provide a narrative description of the geology of the area and/or a geologic cross section.

106.9 - Location and size of ore and waste stockpiles, tailings and treatment ponds, and discharges

Describe the location and size of any proposed waste/overburden dumps, stockpiles, tailings facilities and water storage or treatment ponds.

Describe how overburden material will be removed and stockpiled.

Describe how tailings, waste rock, rejected materials, etc. will be disposed of.

Describe the acreage and capacity of waste dumps, tailings ponds and water storage ponds to be constructed. All impoundments must include the necessary hydrologic calculations to determine if they are adequately sized to handle storm events.

Describe any proposed effluent discharge points (UPDES) and show their location on the surface facilities map. Give the proposed discharge rate and expected water quality. Attach chemical analyses of such discharge if available.

IV. R647-4-107 - Operation Practices

During operations, the operator shall conform to the practices listed under this section of the Minerals Rules unless the Division grants a variance in writing.

Describe measures taken to minimize hazards to public safety during mining operations regarding:

the closing or guarding of shafts and tunnels to prevent unauthorized or accidental entry in accordance with MSHA regulations;

the disposal of trash, scrap metal, wood and extraneous debris;

the plugging or capping of drill, core or other exploratory holes;

the posting of appropriate warning signs in locations of public access to operations;

the construction of berms, fences or barriers above highwalls or other excavations.

If any of these safety measures are unnecessary, please explain why.

Describe measures taken to avoid or minimize environmental damages to natural drainage channels which will be affected by this mining operation.

Describe measures taken to control and minimize sediment and erosion on areas affected by this mining operation. Describe measures being taken to prevent sediment from leaving the disturbed area.

Identify any potentially deleterious materials that may be stored on site (including fuel, oil, processing chemicals, etc.) and describe how they will be handled and stored.

Describe the measures taken to salvage and store soils to be used in reclamation.

Describe how stockpiled topsoil will be protected from erosion and further impact.

Please describe any reclamation to be done during active mining operations prior to final closure. Reference these areas on a map.

V. Rule R647-108 - Hole Plugging Requirements

All drill holes which will not eventually be consumed by mining must be plugged according to the methods listed in this section. Describe the location of any aquifers encountered by drilling and the method to be used to plug such water containing holes. Describe the method to be used for plugging holes not containing water.

VI. Rule R647-109 - Impact Statement

109.1 - Surface and groundwater systems

Describe impacts to surface or groundwater which could be caused by this mining operation. Describe how these impacts will be monitored and mitigated. The appropriate groundwater and stormwater control permits need to be obtained from the Division of Water Quality. Please reference any such permits.

109.2 - Wildlife habitat and endangered species

Describe the impacts on wildlife habitat associated with this operation. Describe any impacts to big game species found in the area. Describe any impacts to riparian areas. Describe any impacts this operation will have on waterfowl (fly-over, temporary resident or permanent resident). List any threatened or endangered wildlife species found in the area. Describe impacts to threatened or endangered species and their habitats. Describe measures to be taken to minimize or mitigate any impacts to wildlife or endangered species.

109.3 - Existing soil and plant resources

Describe impacts to the existing soil and plant resources in the area to be affected by mining operations. Describe impacts to riparian or wetland areas which will be

affected by mining. Describe impacts to threatened or endangered plant species. Describe measures to be taken to minimize or mitigate any impacts to soil and plant resources.

109.4 - Slope stability, erosion control, air quality, public health & safety

Describe the impacts this mining operation will have on slope stability, erosion, air quality, public health and safety. Include descriptions of highwall and slope configurations and their stability. Air quality permits from the state Division of Air Quality may be required for mining operations. Please reference any such permits. Describe measures to be taken to minimize or mitigate impacts to slope stability, erosion, air quality, or public health and safety.

VII. Rule R647-4-110 - RECLAMATION PLAN

110.1 - Current land use and postmining land use

Current or premining land use(s) [other than mining]: See Attachment

List future post-mine land-use(s) proposed: See Attachment

(Develop the reclamation plan to meet proposed post-mine land use.)

110.2 - Reclamation of roads, highwalls, slopes, leach pads, dumps, etc.

Describe how the following features will be reclaimed: roads, highwalls, slopes, impoundments, drainages and natural drainage patterns, pits, ponds, dumps, shafts, adits,8 drill holes and leach pads. Describe the configuration of these features after final reclamation. Describe the rinsing and neutralization of leach pads associated with final decommissioning.

Describe how roads will be reclaimed. Road reclamation may include: regrading cut and fill sections, ripping the road surface with a dozer, topsoil replacement, construction of water bars, construction of traffic control berms or ditches, and reseeding.

Describe how highwalls will be reclaimed. Highwall reclamation may include: drilling and blasting, backfilling, regrading, topsoil replacement, and reseeding.

Describe how slopes will be reclaimed. Slope reclamation may include: regrading to a 3 horizontal : 1 vertical (3h:1v) configuration, topsoil replacement, contour ripping, pitting, and reseeding.

Describe how impoundments, pits and ponds will be reclaimed. Include the final elevations and final disposition of the drainage in and around the impoundment. If the impoundment, pit, or pond is intended to be left as part of the post-mining land use, then an agreement with the land managing agency/owner is required. Structures to remain must be left in a stable condition.

Include the final size of the impoundment, pit, pond in acre-feet of storage and the capacity of the spillway to safely pass storm events.

Impoundments, pits, and ponds, which are not approved as part of the post mining land use shall be reclaimed, free draining, and the natural drainage patterns restored.

Describe how drainages will be reclaimed. Drainage reclamation would include: the reestablishment of a natural drainage pattern which fits in with the upstream and downstream cross-section of existing drainage in the vicinity of the disturbance; the reestablishment of a stable channel in the reclaimed reach of channel, using the necessary armoring to prevent excessive erosion and downstream sedimentation.

Include cross-sections and profiles of reestablished channels to demonstrate compatibility with existing drainage characteristics.

Describe how waste dumps will be reclaimed. Waste dump reclamation may include regrading to a 3h:1v configuration, topsoil replacement, mulch or biosolids applications, contour ripping or pitting, and reseeding. Characterization of the physical and chemical nature of the waste dump materials should be provided.

Describe how shafts and adits will be reclaimed. Reclamation of shafts may include: backfilling, installation of a metal grate, installation of a reinforced concrete cap, topsoil replacement and reseeding. Reclamation of adits may include: backfilling, installation of a block wall, installation of a metal grate, topsoil replacement and reseeding.

Describe how drill holes will be reclaimed. Drill hole reclamation must be consistent with the rules for plugging drill holes (R647-4-108). Reclamation of plugged drill holes may include topsoil replacement and reseeding.

Describe how tailings areas will be reclaimed. Tailings reclamation may include: dewatering, neutralization, placement of cap materials, placement of subsoil materials, topsoil replacement and reseeding. Characterization of the physical and chemical makeup of the tailings material should be provided.

Describe how leach pads will be reclaimed. Reclamation of leached materials may include: neutralization or leached materials, rinsing of leached materials, dewatering leached materials, regrading slopes of leached materials to 3h:1v, extending pad liners, placement of capping materials, placement of subsoil materials, mulch or biosolids application, topsoil replacement and reseeding. Characterization of the physical and chemical makeup of the leached materials should be provided. Post closure monitoring and collection of drain down fluids should also be addressed.

NOTE: The Minerals Rules require overall highwall angles of no more than 45° at final reclamation unless a variance is granted. All dump or fill slopes should be left at an angle of 3h:1v or less. Any slopes steeper than 3h:1v must be reclaimed using state-of-the-art surface stabilization technology. Pit benches exceeding 35 feet in width should be topsoiled, or covered with fines, and revegetated.

Describe the final disposition of any stockpiled materials on site at the time of final reclamation.

110.3 - Surface facilities to be left

Describe any surface facilities which are proposed to remain on-site after reclamation (buildings, utilities, roads, drainage structures, impoundments, etc.). Describe their post-mine application. *Justification for not reclaiming these facilities must be included in the variance request section.*

110.4 - Treatment, location and disposition of deleterious materials

Describe the nature and extent of any deleterious or acid forming materials located on-site. Describe how these materials will be neutralized, removed, or disposed of on site. Describe how buildings, foundations, trash and other waste materials will be disposed of.

110.5 - Revegetation planting program and topsoil redistribution

Describe the revegetation tasks to be performed in detail. For example, will ripping, mulching, fertilizing, seeding and scarifying of these areas be performed and if so, how will this be accomplished? Correlate this information with the Reclamation Treatments Map.

a) Soil Material Replacement

In order to reestablish the required ground cover, one to two feet (depending on underlying material) of suitable soil material usually has to be redistributed on the areas to be reseeded. If the stockpiled soil isn't sufficient for this, soil borrow areas will need to be located.

Describe the volume of soils and approximate depth of soil cover to be used in reclamation. Describe the source of these soils and provide an agronomic analysis of the soils. If soils will not be used describe the alternative material or amendments to be applied in lieu of soils. Describe the methods used to transport and place soils.

b) Seed Bed Preparation

Describe how the seedbed will be prepared and equipment to be used.
The Division recommends ripping or discing to a minimum of 12 inches and leaving the seed bed surface in as roughened condition as possible to enhance water harvesting, erosion control and revegetation success. Compacted surfaces such as roads and pads should be deep ripped a minimum of 18 inches.

c) Seed Mixture - List the species to be seeded:

Provide a seed mix listing adaptable plant species and the rate of seeding that will be used at the site for reclamation. More than one seed mix may be needed,

depending upon the areas to be reclaimed. Keep the proposed post-mining land use in mind when developing seed mixes.

Example

Species Name	Common Name	Seeding Rate (lbs Pure Live Seed/Acre)

Total lbs/acre _____

(The Division recommends seeding 12-15 lbs./acre of native and introduced adaptable species of grass, forb, and browse seed for drill seeding and 15-20 lbs./acre for broadcast or hydro seeding. The Division can provide assistance in developing reclamation seed mixes if requested).

d) Seeding Method

Describe method of planting the seed.
The Division recommends planting the seed with a rangeland or farm drill. If broadcast seeding, harrow or rake the seed 1/4 to ½ inch into the soil. Fall is the preferred time to seed.

e) Fertilization

Describe fertilization method, type(s) and application rate (if needed).

f) Other Revegetation Procedures

Please describe other reclamation procedures, such as mulching, biosolids application, irrigation, hydroseeding, etc., that may be planned.

VIII. Rule R647-4-112 VARIANCE

The operator may request a variance from Rules R647-4-107 (Operation Practices), R647-4-108 (Hole Plugging), and R647-4-111 (Reclamation Practices) by submitting the following information:

1.11 the rule(s) which a variance is requested from; (rule number and content)

1.12 a description of the specific variance requested and a description of the area affected by the variance request; show this area on the Reclamation Treatments Map(s).

1.13 justification for the variance;

1.14 alternate methods or measures to be utilized in the variance area.

Variance requests are considered on a site-specific basis. For each variance requested, attach a narrative which addresses the four items listed above.

IX. Rule R647-4-113 - SURETY

A Reclamation surety must be provided to the Division prior to final approval of this application. In calculating this amount, include the following major tasks:

1) Clean-up and removal of structures.
2) Backfilling, grading and contouring.
3) Soil material redistribution and stabilization.
4) Revegetation (preparation, seeding, mulching).
5) Safety gates, berms, barriers, signs, etc.
6) Demolition, removal or burial of facilities/structures, regrading/ripping of facilities areas.
7) Regrading, ripping of waste dump tops and slopes.
8) Regrading/ripping stockpiles, pads and other compacted areas.
9) Ripping pit floors and access roads.
10) Drainage reconstruction.
11) Mulching, fertilizing and seeding the affected areas.
12) General site clean up and removal of trash and debris.
13) Removal/disposal of hazardous materials.
14) Equipment mobilization.
15) Supervision during reclamation.

To assist the Division in determining a reasonable surety amount, please attach a reclamation cost estimate which addresses each of the above steps. The areas and treatments included in the reclamation treatments map should correspond with items included in the reclamation cost estimate. The reclamation costs used by the Division must be third party costs.

X. SIGNATURE REQUIREMENT

I hereby certify that the foregoing is true and correct.

Signature of Operator/Applicant: Jerry Holliday

Name (typed or print): Jerry Holliday

Title/Position (if applicable): President

Date: 11-1-99

PLEASE NOTE:

Section 40-8-13(2) of the Mined Land Reclamation Act provides for maintenance of confidentiality concerning certain portions of this report. Please check to see that any information desired to be held confidential is so labeled and included on separate sheets or maps.

Only information relating to the location, size or nature of the deposit may be protected as confidential.

Confidential Information Enclosed: ( ) Yes ( ) No

Attachment I

Vegetation Cover Sampling

Vegetation cover sampling determines the amount of ground that is covered by live vegetation. It is divided into four categories which equal 100 percent. They are:

Vegetation - This is the live perennial vegetation. Care should be taken to avoid sampling in disturbed areas that have a large percentage of annual or weedy vegetation, such as cheatgrass and russian thistle.

Litter - This is the dead vegetation on the ground, such as leaf and stem litter.

Rock/rock fragments - This is the rock and rock fragments on the soil surface.

Bare ground - This is the bare soil which is exposed to wind and water erosion.

Cover Sampling - The following methods are acceptable:

Ocular Estimation

This method visually estimates the percentage of ground covered in a plot by the four components. Plot size is usually a meter or yard square or a circular plot 36 inches in diameter. Ten to twenty plots should be randomly sampled in each major vegetation type.

Line Intercept

Percent ground cover is obtained by stretching a tape measure (usually 100') over the ground and then recording which of the four components is under each foot mark. At least ten of these transects should be randomly laid out and measured in each major vegetation type.

Soil Survey and Sampling Methods

If a SCS or land management agency soil survey is not available, the operator shall delineate all soil types that will be disturbed by mining on a map. Each soil type shall be sampled for its characteristics and inherent properties. Representative sampling locations should have similar geologic parent material, slopes, vegetative communities and aspects. The sampling locations should be representative of the soil type and be identified on the map. Sampling shall be at a minimum of one for each soil type disturbed.

The soil map needs to be of sufficient scale so that each soil type can be accurately located on the ground.

Appendix 1 Addresses item 105.1 - Base Map

(A) Property boundary of surface ownership of all lands which are to be affected by mining operations.

The land where the proposed impact site will be conducted is owned by the State of Utah and managed by the Division of Forestry, Fire and State Lands. Legal description is as follows; Township 41 South Range 20 East, and part of section 16, San Juan County Property can be located on the following 7.5minute United States Geological Survey map 'San Juan Hill' (see Base Map).

(B) Perennial, intermittent, or ephemeral streams, springs and other bodies of water; roads, buildings, landing strips, electrical transmission lines, water wells, oil and gas pipelines, existing wells or bore holes, or other existing surface or subsurface facilities with in 500 feet of proposed mining operations.

There is an ephemeral stream located some 100 feet to the southwest of the proposed impact site. This stream is only active in times of heavy precipitation. A county maintained road (San Juan County Road 2351, Lime Ridge) also runs through the site (Figure 1) and will be used to haul materials from the proposed impact site (see Base Map).

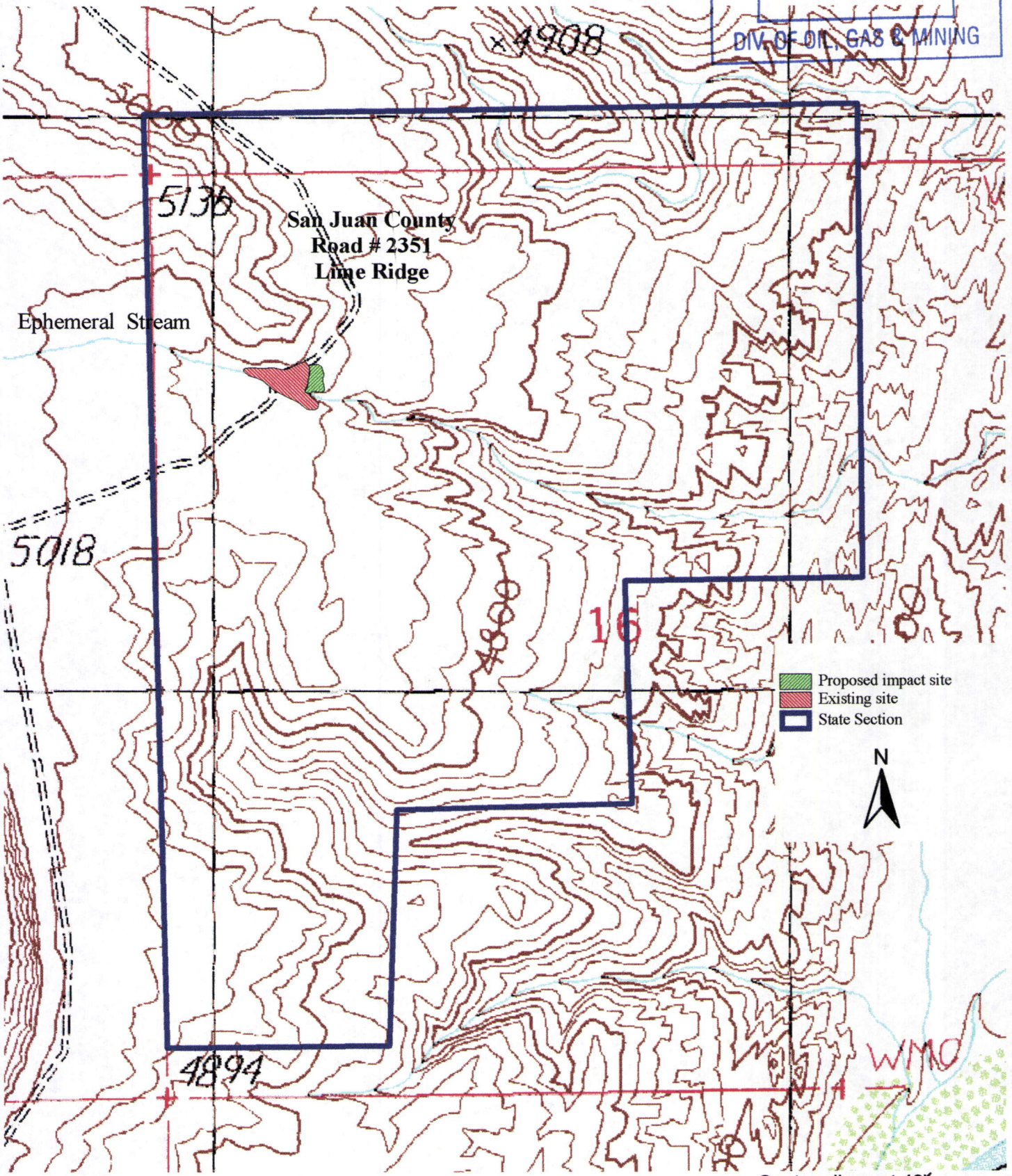
(C) Proposed rout of access to the mining operations from the nearest publicly maintained highway. Proposed impact site will be accessed off of Utah SR 163 and San Juan County Road 2351, Lime Ridge (Base Map).

Figure 1. Picture shows San Juan County maintained Lime Ridge Road which runs through the current impact site.

(D) Known areas which have been previously impacted by mining or exploration activities within the proposed land affected. There has been no previous activities of mining or oil and gas operations on the proposed impact site. However, adjacent areas outlined in a red hash mark (Base Map) show an area where previous mining operations have taken place in subsequent years.

(E) Areas proposed to be disturbed or reclaimed over the life of the project or other suitable time period. Areas where proposed impact are to be conducted are outlined in green hash marks (Base Map) and will be reclaimed and revegetated upon completion of mining activities.

105.1 - BASE MAP



Appendix 2 Addresses item 105.2 - Surface Facilities Map.

(A) Proposed surface facilities, including but not limited to: buildings, stationary mining/processes, equipment, roads, utilities, power lines, proposed drainage control structures, and the location of topsoil storage areas, overburden/waste dumps, tailings, or processed waste facilities, disposal areas for overburden, solid and liquid wastes, and wastewater discharge treatment and containment facilities.

There are no structures or facilities placed on the proposed impact site nor will any structures or facilities be placed on proposed impact site. All equipment will be located on existing impact site. Topsoil will be pushed aside (Figure 2 and Surface Facilities Map) and piled up so that it can be easily pushed over the area once the proposed activities are complete.

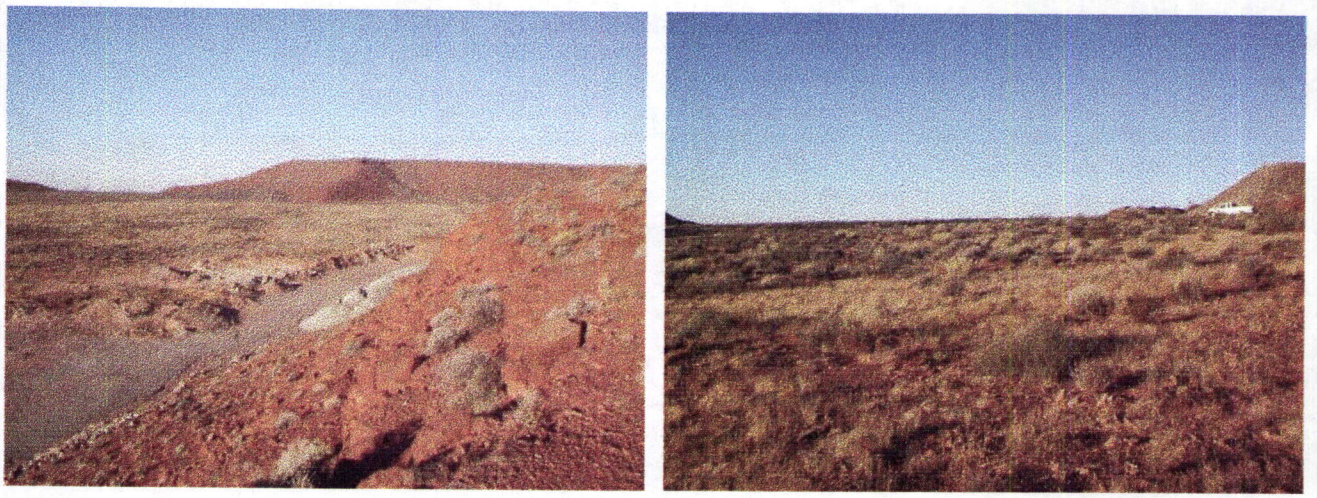
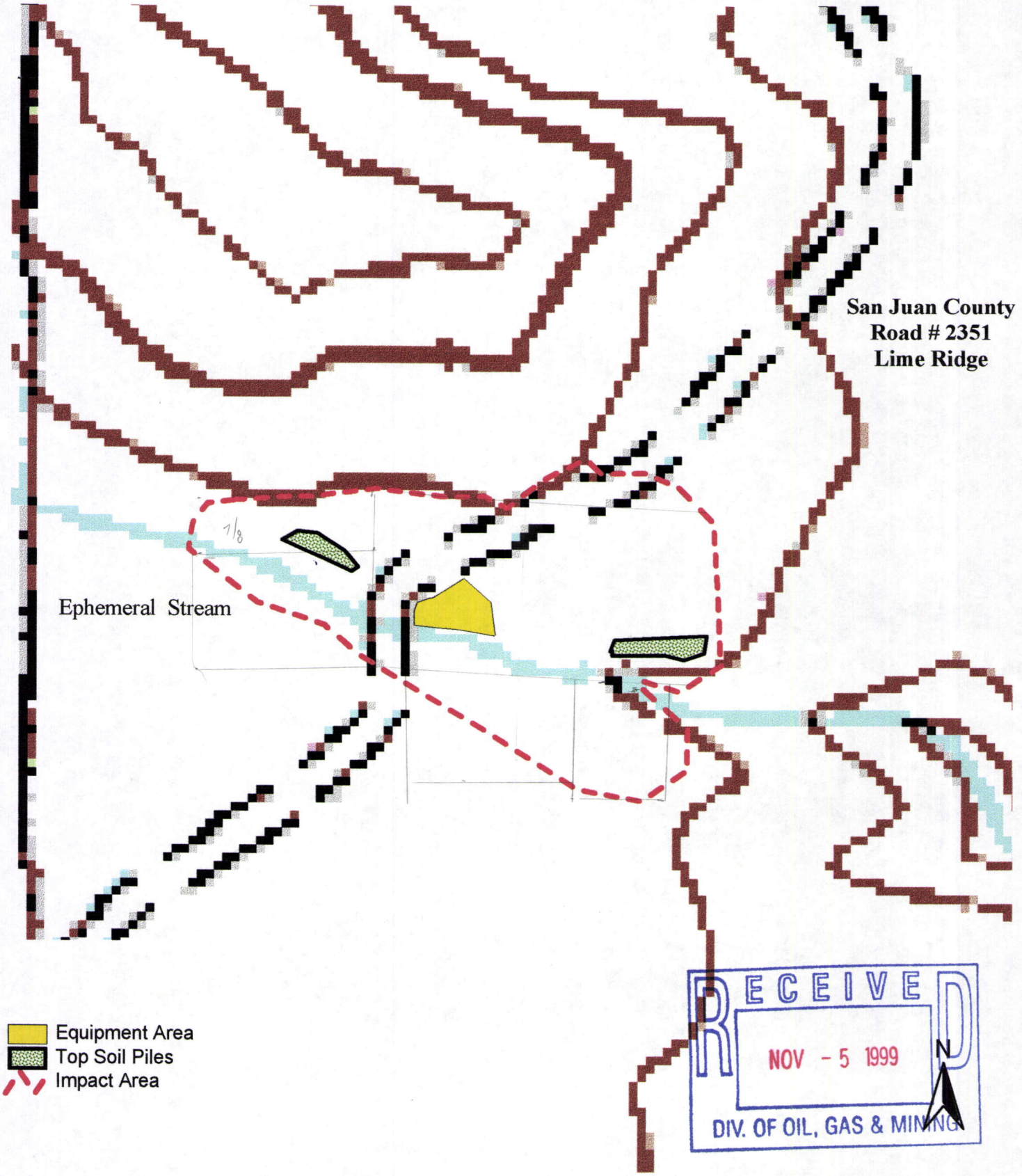


Figure 2. The picture on the left shows area of previous activities. As the picture indicates the topsoil (show in a green checkered patter on Surface Facilities Map) from this area has been stocked piled in a burm located in the center of the picture. The picture of the right is the proposed area of impact.

(B) A border clearly outlining the extent of the surface area proposed (See Surface Facilities map) to be affected by mining operations, and the number of acres proposed to be affected. The proposed impact area is outlined with a red dashed line and comprises approximately 12 acres (See Surface Facilites Map).

(C) The location of known test boring, pits, or core holes. None exist and no work of this type will be done on the proposed impact site.

105.2 - Surface Facilities Map



Contour lines at 40'
Map projection UTM
San Juan Hill 7.5 minute
USGS Map

Appendix 3 Addresses item 105.3 - Reclamation Treatments Map.

(A) Areas of the site to receive various reclamation treatments shaded, cross hatched or color coded to identify which reclamation treatments will be applied. Areas would include: buildings, stationary mining/processes, equipment, roads, utilities, power lines, proposed drainage control structures, and the location of topsoil storage areas, overburden/waste dumps, tailings, or processed waste facilities, disposal areas for overburden, solid and liquid wastes, and wastewater discharge treatment and containment facilities. Reclamation treatments may include ripping, regrading, replacing top soil, fertilizing, mulching, broadcast seeding, drill seeding, and hydro seeding.

The area to be reacclimated will include areas where topsoil has been removed and mining activities have taken place. The area will have the topsoil spread back across the area and a seed mixture will be broadcast across the site (Figure 3).

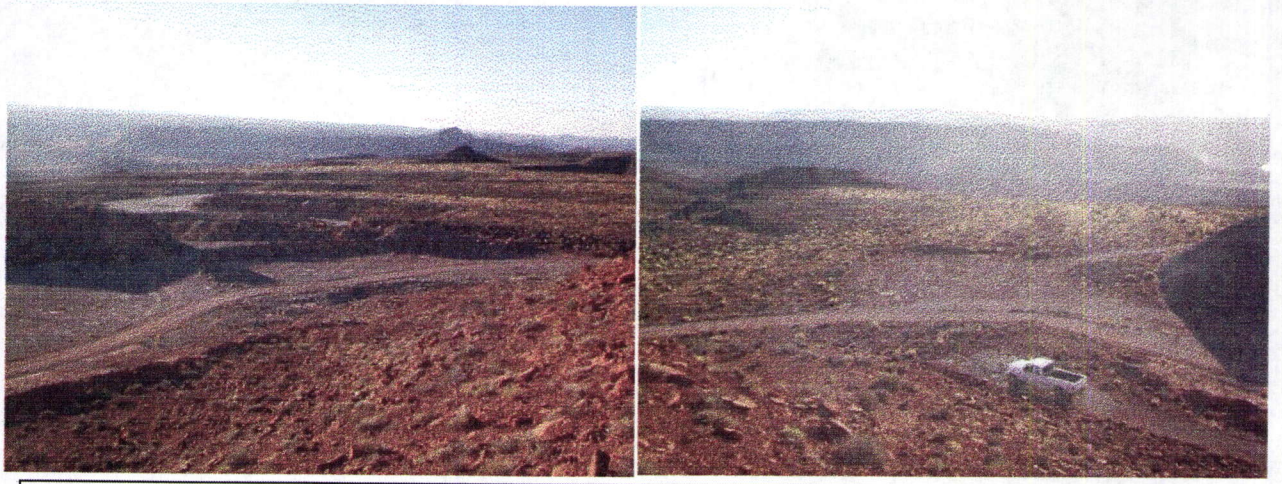


Figure 3. Picture on the right shows area of previous impact to be revegetated and reclimation activities to be conducted. The picture on the right shows the area of the proposed imact site.

LEFT

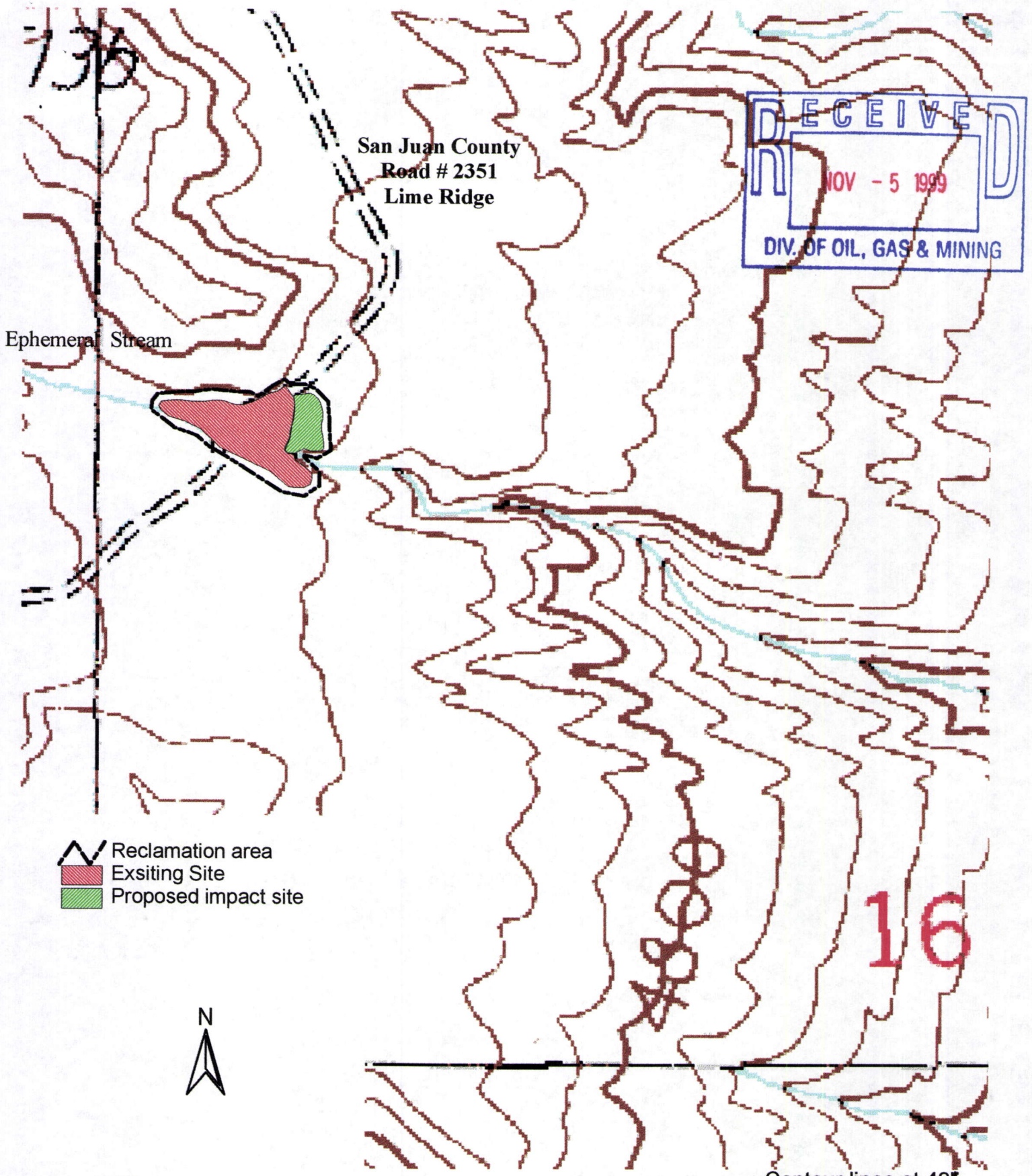
(B) A border clearly outlining the extend of the area to be reclaimed after mining, the number of acres disturbed, and the number of acres proposed for reclamation.

The proposed impact area is outlined with a black dashed line (See Reclimation map) and comprises approximately 12 acres. The area to be reclaimed would include the same 12 acres and additional areas from previous activities comprising approximately 15 acres. These areas are outlined in a black dashed line.

(C) Areas disturbed by this operation which are included in a request for a variance from the reclamation standards. NONE are requested.

(D) Highwalls which are proposed to remain steeper than 45 degrees and slopes which are proposed to remain steeper than 3 horizontal : 1 versicle. NONE.

5.3 - Reclamation Map



16

Appendix 4 Addresses item 106.7 and 109.3 - Existing vegetative communities to establish revegetation success

SITE LOCATION

The proposed impact site is located approximately 10 kilometers West/Southwest of Bluff, San Juan County, Utah off of State Route (SR)163 on San Juan County Road 2351, Lime Ridge. In the past, this site has been used for the removal and processing of lime stone (out lined as a red hash mark polygon in Base Map). The proposed impact site is located in the Northwest quarter section of section 16, Range 20 East, Township 21 South and covers approximately 12 acres. The site is located on a bench above the San Juan River and below several small bluffs located in the area (outlined as a green hash mark in Base Map). The site can be generally characterized as a desert environment (Figure 4) with sparse vegetation growing on site. The site ranges in elevation from 4930' to the east and 4960 to the west. Vegetation on the site is dominated by black brush (*Coleogyne ramosissima*), Mexican Cliff rose *(Cowania mexicana)*, blue gramma grass *(Bouteloua gracilis)*, and hairy galleta *(Hilaria jamesii)*. East of the site slopes of gently until it drops into Comb Wash Canyon . To the south (~1.8km) on Bureau of Land Management Lands lies the San Juan River (Figure 5).

Figure 4. Picture of proposed impact site taken from the eastern extent of the site looking west. Picture also shows the vegetation which exists on the site.

Figure 5. Picture shows the San Juan River in the distance as well as Comb Wash Canyon comming into the picure from the upper left.

METHODS

An ocular estimation method was used to determine plant species composition, percent cover, and sample plant species diversity on the proposed impact site. A total of five 10m square plots were randomly select on the proposed impact site and five 10m square plots were selected to the south, north, and east of the proposed impact site. Plant species were recorded as a percentage at each site as well bare ground percent cover, rock and litter percent cover so that each site totaled 100 percent of vegetative and non-vegetative cover (Figure 5). These sites were averaged and an overall vegetative non-vegetative percent cover for the general area was determined as follows; 50% bare ground/gravel, 20% rock, 20% shrubs, and 10% grasses and forbes (Figure 5). Additional line transects were walked in and around the proposed impact site to determine additional species of wildlife. These species were recorded by visual observations, tracks surveys, and fecal surveys.

Figure 5. Picture showing the various vegetative and non-vegetative cover of the area.

FINDINGS

A total of 17 species of plants and 5 species of fauna (Table 2) were recorded on the proposed impact and adjacent. From observations made during this assessment **no threatened or endangered species of flora or fauna were observed on the proposed impact site** or the adjacent properties. Whereas no T&E species were recorded during this period, an impact on any T&E species on the proposed impact site is unlikely to occur and a finding of **no significant impact on any threatened or endangered species of flora or fauna can be implied.**

Table 2. List of flora and fauna found on the proposed impact site and adjacent properties. Those species found on the proposed impact site are marked with and asterisk (*).

Flora Fauna	Common Name	Genus Species	Forb (F) Grass (G) Shrub (S) Tracks (T) Scat (D) Visual (V)	Abundance (H) High (M) Medium (L) Low (T) Trace (U) Unknown	Native (N) Non-native (I)
plant	*Russian thistle	Salsoa iberica	F	H	I
plant	*Snake Weed	Gutierrezia sarothrae	S	H	N
plant	*Birds Beak	Cordylanthus wrightii	F	M	N
plant	June Grass	Bromus techorum	G	H	I
plant	*Indian Rice Grass	Oryzopsis hymenoides	G	M	N
plant	*Mormon Tea	Ephedra viridis	S	M	N
plant	*Sagebrush	Artemisia tridentata spp.	S	L	N
plant	*Rubber Rabbitbrush	Chrysothamnus nauseosus	S	H	N
plant	* Mexican cliff rose	Cowania mexicana	S	M	N
plant	Fourwing Saltbrush	Atriplex canescens	S	M	N
plant	*Winter fat	Ceratoides lanata	F	T	N
plant	*Evening Yucca	Yucca bacata	S	L	N
plant	*Shadscale saltbrush	Atriplex confertifioia	S	M	N
plant	*Barrel cactus	Opuntia spp.	S	T	N
plant	*Prickly pair cactus	Opuntia spp.	S	T	N
plant	*Blue Grama grass	Bouteloua gracilis	G	T	N
plant	*Hairy Galleta	Hilaria jamesii	G	M	N
Bird	*Horned Lark	*Eremophila alpestris*	V		N
Bird	*Lesser Goldfinch	*Carduelis psaltria*	V		N
Bird	Prairie Falcon	*Falco mexicanus*	V		N
Mml	*Mule Deer	Odocoileus hemionus	D/T		N
Mml	*Cottontail rabbit	Sylvilagus spp.	V		N
Mml	Black-tailed jackrabbit	Lepus californicus	T		N
Mml	*Kangaroo rat	*Dipodomys spp.*	T		N
Mml	*Grey Fox	*Urocyon cineroargenteus*	D/T		N

Appendix 4 Addresses item 109.2/109.3 - Wildlife Habitat and endangered species and existing soil and plant resources.

Describe the impacts on wildlife habitat associated with this operation. Describe any impacts to big game species found in the area. Describe any impacts to riparian areas. Describe any impacts this opeation will have on waterfowl (fly-over, temporary resident or permanent resident). List any threatened or endangered species and thir habitats. Describe measures to be take to minimize or mitigate any impacts on wildlife or endangered species.

See Appendix 3 and associated table for a list of wildlife species recorded on site.

Very few mamalian or avian species were recorded on the site at the time of the survey. There appears to be little use of big game or other wildlife spcies on the proposed impact site. The area is sparsley vegetated and offers little in the way of food or cover for many wildlife species. There are no riparian areas within 500 feet of the proposed impact site and no wetlands that would affect any waterfowl species. From observations made during this assessment **no threatened or endangered species of wildlife or plants were observed on the proposed impact site** or the adjacent properties. Whereas no T&E species were recorded during this period, an impact on any T&E species on the proposed impact site is unlikely to occur and a finding of **no significant impact on any threatened or endangered species of flora or fauna can be implied.**

Methods to reclimate the site with suitable forage species has been outlined in appendix 2 and all possible efforts will be taken to assure the area is reseeded with a native seed mixture similar to existing conditions and those which will benefit local populations of wildlife.